



TECHNICAL SPECIFICATION

m-thick

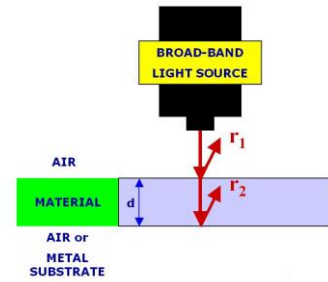
OPTICAL SENSOR FOR WALL THICKNESS MEASUREMENT

HOW IT WORKS

The optical sensor is based on low coherence interferometry. The material is illuminated with a broad-band near-infrared light source. The optical head collects reflections coming from interfaces and makes it possible to obtain interference between the two components.

The resulting optical signal intensity has an oscillatory component which frequency is linearly related to the thickness of the material.

By measuring the frequency and knowing the refractive index of the material, the thickness can be obtained with high accuracy.



APPLICATIONS

The sensor measures any transparent or semi-transparent material; coating on substrates can also be measured.

Target markets are:

- plastic material extrusion (cast/blown/tube)
- glass production (flat/hollow)
- coating on glass, metal or optical devices
- medical plastic devices

ADVANTAGES

- one-sided measure (reflection mode)
- high accuracy
- non-contact
- quick integration in production lines or QA/QC laboratory

TECHNICAL SPECIFICATIONS

	EP1	EP2	EP3	EP4
measuring rate	Up to 330 Hz			
light source	halogen lamp	superluminescent diode		
accuracy	< 2 micron			
thickness range	0.005 - 0.1 mm	0.018 - 0.38 mm	0.05 - 1.8 mm	0.15 - 4.0 mm

SYSTEM LAYOUT

Optics and electronics main components are located in the controller.

The optical head is connected with the fiber optic to the controller, thus hazardous area or space-limited applications are not a problem.

The integration of the measurements in the production line is also very quick. Data is available on TCP/IP or RS-485 protocol.

The system can be equipped with additional optics providing multi-channel measurements, i.e. to measure cross-section profile of tubular products or diverse points of the same product.

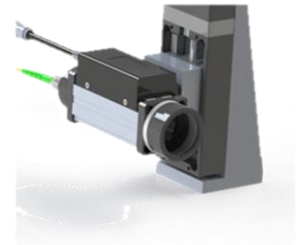


CUSTOM DESIGN AND INTEGRATION

The optical head is a fundamental part to interact with the sample; the best solutions will be provided according to application.

We also provide laboratory fixture to hold sample with complex shape or to measure points with limited accessibility.

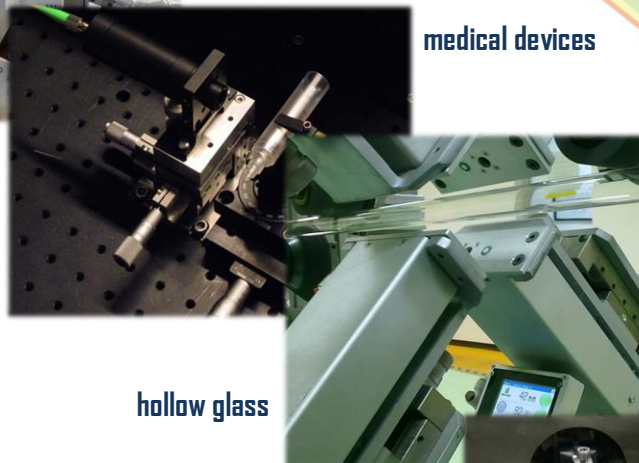
Furthermore, the sensor can be coupled with motorized stage for sample mapping to get linear (one-dimensional) or map (bi-dimensional) of the thickness.



SOLUTIONS



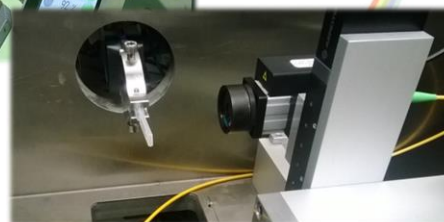
plastic extrusion



medical devices

hollow glass

pharma packaging



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